

Fourcault process for making window glass, patented by Belgian inventor Emile Fourcault in 1904. Installed at Jeannette in 1928. Delineated by Cecilie Trolle and Sanford Garner, 1992.

(Glass—continued from page 13)

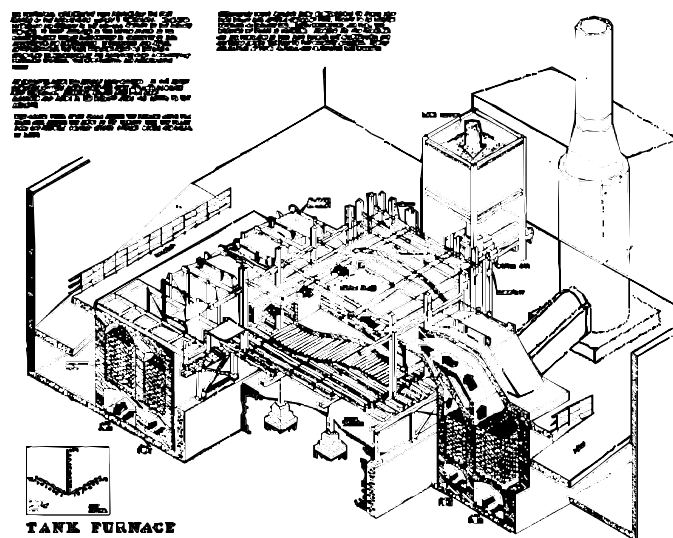
American Window Glass Company, employed as many as 1,500 workers during this time. The influx of workers into the enlarged and mechanized glass plants required more dwellings to house Jeannette's rising population. In addition to its residential buildings, the construction of new social halls and taverns reflected the city's building boom in the early 20th century. New waves of immigrants from southern and eastern Europe shaped the city's social, cultural, and political life. The HABS/HAER study looks at changes in Jeannette's resi-



Double House, 312-314 S. Sixth Street, built around 1900. A typical brick double house in Jeannette constructed by a building speculator and occupied by skilled glass workers and their families. Photo by Matte Maldre, 1989.

dential and commercial development as a result of this population growth, and in relation to changes in factory technology, management, and the workforce. Using census reports, tax records, deeds, maps, and a survey of existing buildings, this study shows how managers, merchants, and workers affected the physical development of the city. The social and cultural character of Jeannette's various neighborhoods is linked to class, workers' mobility, and ethnicity.

The final draft of the study will incorporate the technological and social history of Jeannette with the HABS/HAER drawings and photographs of the window glass factory and buildings in the city. Prepared under the direction of HAER Historian Dr. Richard J. O'Connor, the manuscript has had a number of contributors, including Gary Koll, Joseph Socki, and Laura Dreimeyer.



Tank Furnace. The first one in the U.S. was constructed at Jeannette in 1889. Delineated by Amy McGroarty, 1992.

¹ This comprehensive inventory was conducted in concert with America's Industrial Heritage Project, a National Park Service effort in southwestern Pennsylvania which aims to preserve and interpret significant cultural resources related to the region's historic industry and transportation.

Gray Fitzsimons, engineering historian for HAER, has served as HABS/HAER project manager for the division's multi-year documentation work in southwestern Pennsylvania.

(**Charleston**—continued from page 15)

our progress. We were very fortunate that we were able to photograph during all eight days we were in Charleston; only one day was partially interrupted due to rain. We did have to develop a strategy to take advantage of the different lighting conditions during the day. We had to shoot the facades along East Battery in the morning to take advantage of the rising sun, and we shot the facades along South Battery later to take advantage of the afternoon and evening sun.

Photogrammetry does have some inherent limitations when it is applied to architectural documentation. First, unlike a "typical" HABS/HAER project in which a complete structure is hand-measured, creating extensive field notes which can be used to verify accuracy, photogrammetry has minimal amounts of field notes in which to verify accuracy. Second, during the film developing and digitizing processes there is a potential for inaccuracies and distortions to occur. Third, you are only documenting what the camera sees. This could result in incomplete documentation, and makes documenting floor plans and structural systems difficult or impractical.

Although there are some limitations inherent in photogrammetry, there are many benefits in using this method of documentation. First, it has the ability to record a large complex of buildings in a relatively short period of time. Second, it can postpone the cost of developing scaled drawings until funding becomes available or drawings become necessary. Third, at the very minimum, it provides photographic records in a uniform format.

When considering photogrammetry as a possible method of documentation, a judgment has to be made as

to whether the benefits of saving time and money outweigh the potential inaccuracies of plotting a photographic image. In the case of the Charleston Battery project, because of its scope, it was easily determined that photogrammetry was the most efficient method of documentation. If HABS/HAER had hand-measured all 26 facades, which is the "traditional" method of gathering field data, it might have taken a team of 10 members more than 3 months to collect the necessary data. Using the photogrammetric process, a team of four members, including the photographer, took eight days to gather the data necessary for photogrammetry.

The appropriateness of the photogrammetric process must be evaluated on a case-by-case basis. In addition to cost, the possible dangers of hand-measuring in a given case should be a factor in deciding whether to use photogrammetry. With developments of technology and computer software rapidly improving, applications of photogrammetry will probably increase until it becomes the preferred method of documentation.

Mellonee Rheams is an architect with HABS and is currently project foreman on the Lincoln and Jefferson Memorials documentation project. Her previous HABS projects include the Au Sable Lighthouse in Grand Marais, MI, Snee Farm in Charleston, SC, and the White House.

Tom Behrens is an architect with HABS. His first involvement with the HABS program came while an undergraduate student at The Catholic University of America when he entered measured drawings of a Sears house in Cheverly, MD, in the 1989 Charles E. Peterson Prize.



Printed on
recycled
paper

CRM

VOLUME 16 • NO. 3

Cultural Resources
Washington, D.C.

U.S. Department of
the Interior
National Park Service
Cultural Resources
P.O. Box 37127
Washington, DC 20013-7127

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$200

FIRST CLASS MAIL

Postage & Fees Paid
U. S. Department of the Interior
G-83